

We Claim:

1. An integrated apparatus for use in a patient encounter, said apparatus comprising:
an input device having means for reading machine readable information; and
a computing device connected to at least one medical instrument and said input device.
2. An integrated apparatus according to Claim 1, further including a miniature imaging device for selectively capturing images during a patient encounter.
3. An integrated apparatus according to Claim 1, including control means for controlling the operation of said at least one medical instrument, said input device, and said computing device.
4. An integrated apparatus according to Claim 2, wherein said miniature imaging device is provided in said input device.
5. An integrated apparatus according to Claim 1, wherein said input device is a bar-code scanner.
6. An integrated apparatus according to Claim 4, wherein said input device is a bar-code scanner.
7. An integrated apparatus according to Claim 1, including a printer connected to at least said computing device.
8. An integrated apparatus according to Claim 3, wherein said control means includes user actuable controls for controlling the operation of the apparatus.
9. An integrated apparatus according to Claim 2, wherein said computing device includes data storage means for selectively storing at least

one image captured by said miniature imaging device and data from said at least one of said input device and said at least one medical instrument.

10. An integrated apparatus according to Claim 2, wherein said input device includes means for identifying at least one machine readable portion in at least one image that is captured by said miniature imager device.

11. An integrated apparatus according to Claim 10, wherein said computing device includes means for decoding said at least one machine readable portion if identified in a captured image.

12. An integrated apparatus according to Claim 1, including encryption means for preventing unauthorized operation of said apparatus.

13. An integrated apparatus according to Claim 3, wherein said apparatus is substantially controlled using said input device by scanning appropriate machine-readable information portions, said portions including instructions that are interpreted by and executed by computing device.

14. An integrated apparatus according to Claim 13, wherein scanning of an appropriate machine readable portion by said input device automatically causes activation of said at least one medical instrument.

15. An integrated apparatus according to Claim 14, wherein at least one of said machine readable portions are displayed by said computing device.

16. An integrated apparatus according to Claim 14, wherein at least one of said machine readable portions are on a patient record sheet.

17. An integrated apparatus according to Claim 16, wherein said patient record sheet further includes at least one machine readable portion that includes patient-related data, wherein the patient related data can be

uploaded into the data storage means of said computing device and in which additional patient data can be added so as to create an updated patient record sheet having an updated machine readable portion thereon.

18. An integrated apparatus according to Claim 7, wherein said printer is wirelessly connected to said computing device.

19. An integrated apparatus according to Claim 1, wherein each of said input device and said computing device are each integrated onto a movable cart.

20. An integrated apparatus according to Claim 19, wherein said printer is supported by said movable cart.

21. An integrated apparatus according to Claim 19, wherein said movable cart includes storage means for storing patient-related items.

22. An integrated apparatus according to Claim 21, wherein said storage means includes at least one drawer provided on said movable cart.

23. An integrated apparatus according to Claim 21, wherein said storage means includes at least one storage receptacle.

24. An integrated apparatus according to Claim 1, further including at least one wireless transceiver and at least one antenna for transmitting data from said apparatus to a remote location.

25. An integrated apparatus according to Claim 19, including a miniature imaging device connected to said computing device.

26. An integrated apparatus according to Claim 25, wherein said miniature imaging device is incorporated into said input device.

27. An integrated apparatus according to Claim 25, wherein said miniature imaging device is tethered to said movable cart.

28. An integrated apparatus according to Claim 25, wherein said miniature imaging device is wirelessly connected to said computing device.

29. An integrated apparatus according to Claim 28, wherein said movable cart includes means for wirelessly communicating with said miniature imaging device, thereby permitting bi-directional communication therebetween.

30. An integrated apparatus according to Claim 1, wherein said at least one medical instrument and said computing device are wirelessly linked.

31. An integrated apparatus according to Claim 30, wherein said at least one medical instrument and said computing device are linked by means of a RF wireless protocol.

32. An integrated apparatus according to Claim 31, wherein said RF wireless protocol is at least one of Bluetooth, 802.11(a), 802.11(b), 802.11(g) and Zigbee.

33. An integrated apparatus according to Claim 1, wherein said at least one medical instrument is linked to said computing device through a serial connection.

34. An integrated apparatus according to Claim 1, including a power supply.

35. An integrated apparatus according to Claim 34, wherein said power supply includes at least one rechargeable battery.

36. An integrated apparatus according to Claim 19, including a power supply supported by said movable cart.

37. An integrated apparatus according to Claim 36, wherein said power supply includes at least one rechargeable battery.

38. An integrated apparatus according to Claim 1, wherein said at least one medical instrument is a medical vital signs monitor.

39. An integrated apparatus according to Claim 38, wherein said vital signs monitor is wirelessly connected to said computing device.

40. An integrated apparatus according to Claim 1, wherein said at least one instrument is a portable EKG assembly.

41. An integrated apparatus according to Claim 40, wherein said portable EKG assembly is connected to said computing device.

42. An integrated apparatus according to Claim 1, wherein said at least one medical instrument is a sphygmomanometer.

43. An integrated apparatus according to Claim 42, wherein said sphygmomanometer includes an inflatable sleeve having a pressure control assembly for inflating and deflating said sleeve, said pressure control assembly being connected to said computing device so as to inflate the sleeve to a predetermined pressure depending on the patient whose blood pressure is being measured.

44. An integrated apparatus according to Claim 43, wherein said computing device includes at least one database for storing patient physiological readings, said patient having means for identification via said input device, wherein said patient identification means automatically accesses said database and preprograms the pressure control assembly for said patient.

45. An integrated apparatus according to Claim 1, wherein said computing device includes a display.

46. An integrated apparatus according to Claim 19, wherein said computing device includes a display.

47. An integrated apparatus according to Claim 3, wherein said control means includes at least a second input device for inputting instructions to said apparatus.

48. An integrated apparatus according to Claim 47, wherein said second input device includes at least one of a keyboard and a mouse connected to said computing device.

49. An integrated apparatus according to Claim 48, wherein said computing device includes data storage means and in which said second input device is a keyboard, said keyboard permitting manual entry of patient related data into said data storage means.

50. An integrated apparatus according to Claim 1, including means for training new users in the operation of said apparatus, said training means including a template that includes a plurality of machine-readable icons that are selectively openable by a user, wherein selection of an icon by said input device causes said computing device to open a portion of a training manual stored in the memory of said computing device.

51. An integrated apparatus according to Claim 1, including inventory control means for tracking the use of disposable and nondisposable supply items relating to a patient.

52. An integrated apparatus according to Claim 1, including means for tracking the delivery of medications to a patient.

53. An integrated apparatus according to Claim 7, wherein said computing device can selectively produce a printable summary sheet containing at least one symbol having machine readable code thereupon, and in which patient related information is encoded in said at least one symbol to avoid redundancy in entering data and to permit updating.

54. An integrated apparatus according to Claim 1, including means for determining the amount of fluid inputs and outputs of a patient.

55. An integrated apparatus according to Claim 54, wherein at least one fluid container of a patient includes a plurality of machine readable indicators, each indicator being representative of a fluid level in said container, and in which said input device can selectively read at least one said indicator, said computing device having means for computing fluid amounts based on indicators that are read.

56. An integrated apparatus according to Claim 43, wherein said display includes folding means for selectively storing and deploying said display relative to said cart.

57. An integrated apparatus according to Claim 1, wherein said computing device includes at least one database for storing patient physiological readings, said patient having means for identification via said input device, wherein said patient identification means automatically accesses said database.

58. An integrated apparatus according to Claim 9, wherein said data storage means including archiving means for storing a history of patient physiological readings.

59. An integrated apparatus according to Claim 58, wherein said computing device can selectively report results from said archiving means.

60. An integrated apparatus according to Claim 45, wherein patient physiological parameter data from said at least one medical instrument can be displayed on the display of said computing device, said instrument being a diagnostic instrument.

61. An integrated apparatus according to Claim 1, wherein said apparatus is wall mounted.

62. An integrated apparatus according to Claim 45, wherein said display is a touch screen display.

63. An integrated apparatus according to Claim 48, wherein said second input device is a keyboard, said apparatus further including means for providing fluid ingress and allowing easy cleaning to remove biological and other contagious contaminants from said keyboard.

64. An integrated apparatus according to Claim 1, wherein said at least one medical instrument is capable of determining at least one of blood sugar, glucose, cholesterol measurements.

65. An integrated apparatus according to Claim 1, including means for interconnecting said apparatus to a network.

66. An integrated apparatus according to Claim 1, wherein said network interconnecting means includes at least one wireless connecting means for wirelessly connecting said apparatus to at least a portion of said network.

67. An integrated apparatus according to Claim 1, wherein at least one said medical instrument is integrated into said apparatus.

68. An integrated apparatus according to Claim 1, including means for notifying a user when at least one selected physiological parameter monitored by said apparatus exceeds a predetermined threshold.

69. An integrated apparatus according to Claim 1, including means for communicating with at least one medical device remote from said apparatus.

70. An integrated apparatus according to Claim 69, wherein said at least one medical device is a vital signs monitor.

71. An integrated apparatus according to Claim 69, wherein said at least one remote medical device is an infusion pump.

72. An integrated apparatus according to Claim 70, further including means for controlling the operation of said at least one remote medical device.

73. An integrated apparatus according to Claim 69, wherein said communication means comprises wireless communication means.

74. An integrated apparatus according to Claim 73, wherein said wireless communication means includes means for bi-directional communication between said at least one medical device and said apparatus.

75. An integrated apparatus according to Claim 1, wherein said second input means includes means for entering manual measurements related to a patient.

76. An integrated apparatus according to Claim 1, wherein said computing device is removably attached to said apparatus.

77. An integrated apparatus according to Claim 1, wherein said display includes a graphical user interface, said user interface including a body image format permitting a user to readily identify the patient physiological parameters being measured.

78. An integrated apparatus according to Claim 77, wherein said body image format includes a scale body representation wherein physiological parameter readings of a patient are located in proximity to the actual location on the body that the parameter is being measured.

79. An integrated apparatus according to Claim 3, wherein at least a portion of said control means are located on a keyboard.

80. An integrated apparatus according to Claim 79, wherein at least a portion of said control means are located separately from said keyboard.

81. An integrated apparatus according to Claim 41, wherein said sphygmomanometer is automatically operated.

82. An integrated apparatus according to Claim 65, wherein said network can include a plurality of said integrated apparatuses.

83. An integrated apparatus according to Claim 65, wherein said network is a hospital network.

84. An integrated apparatus according to Claim 1, wherein said at least one medical diagnostic instrument includes a weight scale.

85. An integrated apparatus according to Claim 9, wherein said data storage means includes means for storing at least audio data added during said patient encounter.

86. An integrated apparatus according to Claim 86, including means for transmitting said at least one audio message to a remote location.

87. An integrated apparatus according to Claim 43, including means for determining the size of said blood pressure sleeve prior to inflation thereof.

88. An integrated apparatus for use in a patient encounter, said apparatus comprising:

an input device having means for reading machine-readable information;

a computing device connected to at least one medical instrument and said input device, wherein said apparatus is substantially controlled using said input device by scanning appropriate machine-readable information portions, said portions including instructions that are interpreted by and executed automatically by said computing device.

89. An integrated apparatus for use in a patient encounter, said apparatus comprising:

an input device having means for reading machine-readable information; and

a computing device connected to at least one medical instrument and said input device, wherein at least one medical instrument is integrated in said apparatus.